

SAFETY AUDIT

STAGE 1/2



Wadsworth Gardens PROWs, Cleckheaton

**ON BEHALF OF
BARRATT & DAVID WILSON HOMES**

May 2023



Quality Management

Project Number	22152
Filename	22152 - Stage 1 & 2 SA Wadsworth Gardens PROWs, Cleckheaton
Issue No	2
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Appendices

Appendix A Problem Location Plan

1. Introduction

- 1.1.1. Via Solutions has been appointed to carry out a Stage 1 / 2 Safety Audit (SA) of the proposed works associated with the diversion of definitive public footpaths SPE/24/40 and SPE/42/10 (Spenborough 24 and 42) as set out in conditions 8 and 9 of the planning approval reference 2019/62/93658/E for a new residential development off Whitechapel Road in Cleckheaton known as Wadsworth Gardens.
- 1.1.2. The proposed works to divert the public footpaths includes new footpath and footway, kerbing, drainage, street lighting and road markings.
- 1.1.3. The project sponsor is Kirklees Council (KC). The Audit Team Membership is given in Section 4 of this report. This Audit was undertaken in accordance with the guidance in GG 119 and that published by the CIHT in terms of safety of vulnerable users taking note of wider guidance on the design of pedestrian routes. A site visit was carried out on 14th November 2022 between 4pm and 5pm. The weather during the site visit was damp and foggy. The Audit Team were not able to access the site due to ongoing heavy construction works but took observations from beyond. The footpath adjacent to the former public house was also closed off so a view was taken through the fencing. The temporary diversion of the footpaths was in place and the Audit team walked that route.
- 1.1.4. The proposed works are shown on the following drawings prepared by WSP Consulting Engineers Ltd:

H8040_PROW_01 REV C 23.01.23

H8040-0006_DETAILS – ENGINEERING_AFU_._S38 PROW Plan Sheet 1 of 4_P02

H8040-0007_Details – Engineering_AFU_._S38 PROW Levels Plans_Sheet_2 of 4_P04

H8040-0008_Details – Engineering_AFU_._S38 PROW Plans Sht 3 of 4_P04

H8040-0009_Details – Engineering_AFU_._S38 PROW Levels Plans_Sheet_4 of 4_P05

H8040-0014_Details – Engineering_AFU_._PROW Ramp Option Plan_P03

H8040-0744_Details – Engineering_AFU_._S38 PH3 Retaining Wall Sections_P03

17 5076 01 - SITE LAYOUT (REV VV) - 28.02.23 (JRP Plan)

H8040-1103_Details – Engineering_AFU_._S38 PH1 Surface Finishes & Kerbing_2

H8040-1130_Details – Engineering_AFU_._S38 PH2 Surface Finishes & Kerbing

1of2_4

H8040-1131_Details – Engineering_AFU_._S38 PH2 Surface Finishes & Kerbing

2of2_3

H8040-1140_Details – Engineering_AFU_._S38 PH3 Surface Finishes & Kerbing_1

- 1.1.5. This report only considers the safety issues related to the diversion of the public rights of way (PROW) whose works may overlap with those being considered in separate Audit reports carried out by others of the internal highway layout of the new estate roads or off-site works (conditions 24 and 25 refer).
- 1.1.6. The terms of reference of the audit are as described in GG 119 'Road Safety Audit' that forms part of Volume 5 of the Design Manual for Roads and Bridges. Whilst the advice given in the DMRB applies to trunk road and motorway highway improvement schemes, it has been used to inform the scope of this audit. The guidance published by the CIHT has also been followed as has wider guidance on the design of pedestrian routes.
- 1.1.7. The team has examined and reported only on the safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. Recommendations are made in this report regarding problems that are considered to be worthy of attention in respect of safety. The Audit Team has not been made aware of any departures from standards and has not been involved in the design of the works.

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- 1.1.8. Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems identified. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

- 1.1.9. A 'Problem Location Plan' highlighting the problem references is attached at Appendix A.

2. Items Raised in Stage 1 Safety Audit

SUMMARY

The Audit Team has examined the proposed works against the checklist contained within GG 119 and have not identified any problems that need to be raised at that Stage.

3. Items Raised in Stage 2 Safety Audit

SUMMARY

The table below summarises the findings of the Stage 2 Road Safety Audit, which are described in more detail in the section below.

Summary of Items Considered / Raised in Stage 2 Road Safety Audit

Item	Problem
1 GENERAL	
1 Departures from Standards	No
2 Cross Sections / Variations	No
3 Landscaping	No
4 Climatic Conditions	No
5 Drainage	No
6 Lay-bys	No
7 Public Utilities Apparatus	No
8 Access	No
9 Skid Resistance	No
10 Emergency Vehicles	No
11 Future Widening	No
12 Agriculture	No
13 Fences and Road Restraint Systems	No
14 Adjacent Development	No
15 Basic Design Principles	No
16 Bridge Parapets	No
17 Network Management	No
18 Specific Road Users	No

Item	Problem
2 LOCAL ALIGNMENT	
1 Visibility	Yes
2 New / Existing Interface	No
3 Vertical Alignment	Yes
3 JUNCTIONS	
1 Layout	No
2 Visibility	No
3 T X Y Junctions	No
4 All Roundabouts	No
5 Mini Roundabouts	No
6 Traffic Signals	No
4 NON-MOTORISED USER (NMU) PROVISION	
1 Adjacent Land	No
2 Pedestrians	Yes
3 Cyclists	No
4 Equestrians	No
Item	Problem
5 TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING	
1 Signs	Yes
2 Variable Message Sign	No
3 Lighting	No
4 Poles / Columns	No
5 Carriageway Markings	No

2 LOCAL ALIGNMENT

2.1 Problem: Visibility for pedestrians crossing Road 1

Location: Adjacent to bottom of proposed ramp (plots 28 / 29)

Summary: *No visibility splays shown on the drawings for pedestrians crossing Road 1 adjacent to the bottom of the proposed ramp in the new PROW near plots 28 / 29. It is unclear whether adjacent boundary treatments / retaining wall parapet would obstruct splays placing pedestrians in danger.*

No visibility splays are shown on the drawings for pedestrians using the proposed crossing location for the new PROW adjacent to the bottom of the ramp near plots 28 / 29. Pedestrians crossing from south to north after emerging from the ramp would have to look left over the retaining wall to view oncoming traffic. It is not clear whether the height of this wall relative to the vertical alignment of Road 1 would prevent a pedestrian from observing an approaching vehicle and vice versa.

For pedestrians crossing at the same location but from north to south, it is not clear whether there is sufficient visibility afforded to a pedestrian within the proposed highway of vehicles approaching from the north and vice versa without cutting across into private garden areas where planting might obstruct their view.

Failure to provide adequate visibility for pedestrians to judge whether it is safe to cross a carriageway could lead to collisions.

Recommendation

It is recommended that the drawings be amended to show that adequate visibility can be achieved at this crossing point for pedestrians and boundaries / treatments be designed so as to avoid them being obstructed.

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2.2 Problem: Design of Proposed Ramp

Location: Off Road 1 opposite plots 28 / 29

Summary: *The design of the proposed ramp does not fully address usage by vulnerable users with mobility difficulties. There are no measures proposed for aiding people with vision or mobility deficiencies. These issues could result in potential injuries to such users.*

The proposed ramp is located just off Road 1 opposite plots 28 / 29. It will link the higher level of the existing PROW down to the new road level.

The design of the proposed ramp has gradients of 1 in 15 between platforms of 1.2m in length and will be 2m wide. The proposed alignment will place users some 1.8 – 2.0m above the proposed levels of the adjacent highway on a sharp bend in the ramp with no indication to people with vision deficiencies of a safe edge / boundary to follow or provision of hand rails or edge restraints / boundary treatments.

The proposed landings also appear to be quite short particularly for those in wheelchairs or pushing perambulators.

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Therefore, the ramp as proposed may cause safety issues for users with mobility or vision deficiencies.

The Audit Team has also examined the gradients elsewhere along the proposed diversion routes of the PROW and have no comments to make.

Recommendation

It is recommended that the ramp design be reviewed against current good practice guidance and drawings be amended to provide people with vision deficiencies guidance in its use and route and protection from the level difference and adequate landing lengths for wheelchair users and those with perambulators.

4 NON-MOTORISED USER (NMU) PROVISION

4.2.1 Problem: Location of crossing point of Road 1

Location: Adjacent to bottom of proposed ramp (plots 28 / 29)

Summary: *The location of this crossing point is not clear to approaching drivers.*

The location of this crossing point on a tight bend is not readily apparent to approaching drivers and the latter might be taken by surprise if say a group of walkers suddenly emerged from the ramp and needed to cross the road.

The above deficiencies could result in collisions with pedestrians crossing at less safe locations.

Recommendation

It is recommended that the presence of the crossing point is highlighted by either the provision of a different colour / texture of road surface and / or placed on a flat top speed hump.

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4.2.2 Problem: Location of crossing point of Road 1

Location: Road 1 adjacent to plot 111

Summary: *The proposals indicate that part of the diverted PROW will cross Road 1 in the vicinity of plot 111. This uses the vehicle crossover to the drive to plot 111 and there is no dropped kerb or tactile paving on the opposite footway. Failure to indicate a safe crossing point for pedestrians could lead them to use less safe locations.*

The drawings indicate that part of the diverted PROW will cross Road 1 in the vicinity of plot 111 using the vehicle crossover to its driveway. The Audit Team has noted that there is no dropped kerb or tactile paving on the opposite footway in this location.

Whilst the potential for a crossing pedestrian being in conflict with a vehicle using the driveway to plot 111 is small, the location is not ideal and would make it difficult to provide tactile paving in that location. The lack of a dropped crossing and tactile paving on the opposite footway would result in people in wheelchairs or with perambulators having to bump over full height kerbing.

Failure to indicate a safe crossing point for pedestrians could lead them to use less safe locations.

Recommendation

It is recommended that the design team review the location of this crossing point and place it away from driveways so as to allow the provision of dropped crossings and tactile paving.

4.2.3 Problem: Proposed ramp might encourage children to over run into the carriageway

Location: Adjacent to bottom of proposed ramp (opposite plots 28 / 29)

Summary: *The proposals indicate that the ramp will approach Road 1 with a 1 in 15 gradient with no measures to prevent children from using it and over run in to the carriageway and conflict with traffic.*

The drawings indicate that the proposed ramp will have a 1 in 15 straight gradient down towards the footway to the south side of Road 1. A dropped crossing is also proposed in this location. The Audit team consider the ramp will be very attractive to children playing on it with skateboards / scooters / cycles etc.

There is potential for the above usage to result in children over shooting the footway and landing in the live carriageway of Road 1 and be in conflict with moving vehicles.

Recommendation

It is recommended that a staggered barrier be provided at the bottom of the last gradient of the ramp which may require localised widening of the latter to facilitate this.

5 TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

5.1 **Problem: Lack of signage details provided.**

Location: Along PROW routes

Summary: *The drawings do not show whether the PROW signage is single or double sided.*

The drawings do not show whether the PROW signage proposed will be single or double sided in the different locations and so routes may not be clear to all users and take alternative and perhaps less safe routes.

Recommendation

It is recommended that the drawings be amended as follows:

- 1 To show whether they are single or double sided as the need arises for each location.
- 2 The designated crossing points where PROW users cross the new estate roads be sign posted / clearly marked and / or warning signage provided as necessary. This applies to the locations near plots 28 / 29 and 111.

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4. Audit Team Statement

We certify that this Audit has been carried out in accordance with GG 119 and the guidance from CIHT.

AUDIT TEAM LEADER

Eric Appleton BEng DMS CEng MICE
MCIHT
Technical Director
Via Solutions
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Street, Pudsey LS28 6DP

Signed:

Date: 11th May 2023

AUDIT TEAM MEMBER

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Director
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Signed:

Date: 11th May 2023

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APPENDICES


APPENDIX A: Problem Location Plan

DO NOT SCALE


NOTES:

- 1. ALL DIMENSION IN MILLIMETERS (mm) AND ALL LEVELS IN m AOD UNLESS SPECIFIED OTHERWISE.



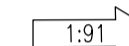

LEGEND:

PROW FINISH 1 

1. TARMACADAM TO ADOPTABLE PAVEMENT FINISH WITH PIN KERBS AND CONCRETE KERBS.

PROW FINISH 2 

2. ENSURE PATH ROUTE IS FREE OF MUD ETC. BY SCRAPPING OFF AND LEVELLING.
 3. SANDSTONE FINISH CONSISTING OF A 100mm DEEP BASE COURSE OF 40mm TO DUST DoT TYPE 1 STONE, OVERLAIN WITH A 20mm DEEP WEARING COURSE OF 6mm TO DUST STONE FOR FOOTPATHS.
 4. PATHS SHOULD BE ROLLED AND COMPACTED AND EDGED WITH PRE-CAST CONCRETE OR TREATED TIMBER AS APPROPRIATE. WHERE NECESSARY A CROSS FALL FOR DRAINAGE OR APPROPRIATE CAMBER SHOULD BE PROVIDED TO PREVENT SURFACE EROSION.
 5. IF POOR GROUND CONDITIONS REQUIRE EXTRA SUPPORT FOR A FOOTPATH A STONE SUB BASE OF LARGE CLEAN STONE AND GEO-TEXTILE MEMBRANE, SUCH AS TERRAM, SHOULD BE USED.
 6. PROW WIDTH 2.0m EXCEPT WHERE RUNNING ALONG SIDE OF THE PRIORITY. THIS FOOTPATH WIDTH IS AS EXISTING AND TREE OFFICER CONSULTED AS NEW FINISH TO BE PLACED ON GEO-GRID TO PREVENT DAMAGE TO TREE ROOT SYSTEMS.

 ADOPTABLE KMDC RETAINING WALL
 PROPOSED PROW LEVEL
 PROPOSED PROW GRADIENT (ARROW INDICATES DIRECTION OF FALL)
 EXISTING LEVEL

REFERENCE:

H8040-0010_DETAILS - ENGINEERING_AFU_-_PROW STEPS PLAN

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK

REV	DATE	BY	DESCRIPTION	CHK	APP
P04	05/01/23	MW	PROW RAMP REVISED	NS	DB
P03	02/12/22	MW	PROW STEPS REMOVED AND REPLACED WITH RAMP OPTION. SIGNAGE ADDED.	NS	DB
P02	14/11/22	MW	UPDATED IN RESPONSE TO DBWH COMMENTS	NS	DB
P01	11/11/22	MW	FIRST ISSUE	NS	DB

DRAWING STATUS: S2 - FOR INFORMATION



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SITE/PROJECT: WHITECHAPEL ROAD, CLECKHEATON

TITLE: PROW LEVELS PLAN SHEET 2 OF 4

SCALE @ A1: 1:200	CHECKED: NS	APPROVED: DB
PROJECT NO: 70055404	DESIGNED: MW	DRAWN: MW
		DATE: January 23

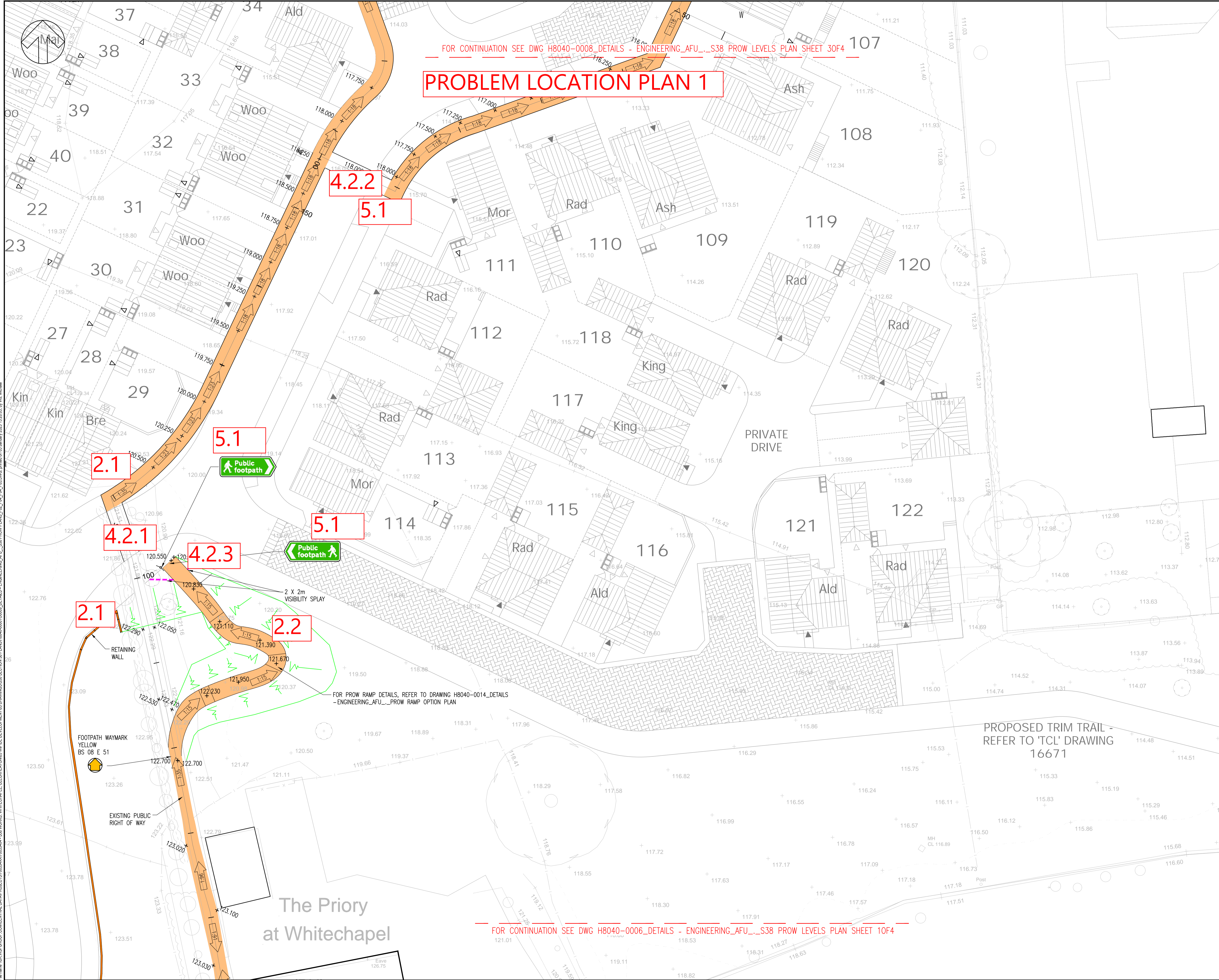
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 REV: P04

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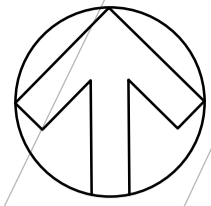
FOR CONTINUATION SEE DWG H8040-0008_DETAILS - ENGINEERING_AFU_-_S38 PROW LEVELS PLAN SHEET 30F4

PROBLEM LOCATION PLAN 1

FOR CONTINUATION SEE DWG H8040-0006_DETAILS - ENGINEERING_AFU_-_S38 PROW LEVELS PLAN SHEET 10F4



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PROBLEM LOCATION PLAN 2

DO NOT SCALE

NOTES:

1. ALL DIMENSION IN MILLIMETERS (mm) AND ALL LEVELS IN m AOD UNLESS SPECIFIED OTHERWISE.

LEGEND:

- PROW FINISH 1
1. TARMACADAM TO ADAPTABLE PAVEMENT FINISH WITH PIN KERBS AND CONCRETE KERBS.
- PROW FINISH 2
2. ENSURE PATH ROUTE IS FREE OF MUD ETC. BY SCRAPPING OFF AND LEVELLING.
 3. SANDSTONE FINISH CONSISTING OF A 100mm DEEP BASE COURSE OF 40mm TO DUST DoT TYPE 1 STONE, OVERLAIN WITH A 20mm DEEP WEARING COURSE OF 6mm TO DUST STONE FOR FOOTPATHS.
 4. PATHS SHOULD BE ROLLED AND COMPACTED AND EDGED WITH PRE-CAST CONCRETE OR TREATED TIMBER AS APPROPRIATE. WHERE NECESSARY A CROSS FALL FOR DRAINAGE OR APPROPRIATE CAMBER SHOULD BE PROVIDED TO PREVENT SURFACE EROSION.
 5. IF POOR GROUND CONDITIONS REQUIRE EXTRA SUPPORT FOR A FOOTPATH A STONE SUB BASE OF LARGE CLEAN STONE AND GEO-TEXTILE MEMBRANE, SUCH AS TERRAM, SHOULD BE USED.
 6. PROW WIDTH 2.0m EXCEPT WHERE RUNNING ALONG SIDE OF THE PRIORITY. THIS FOOTPATH WIDTH IS AS EXISTING AND TREE OFFICER CONSULTED AS NEW FINISH TO BE PLACED ON GEO-GRID TO PREVENT DAMAGE TO TREE ROOT SYSTEMS.

- PROW TO KMC FULL HIGHWAY SPECIFICATION
- ADAPTABLE KMC RETAINING WALL
- PRIVATE RETAINING WALL
- PROPOSED PROW LEVEL
- PROPOSED PROW GRADIENT (ARROW INDICATES DIRECTION OF FALL)
- EXISTING LEVEL
- VISIBILITY SPLAY

REFERENCE:

H8040-0744_DETAILS-ENGINEERING_AFU...S38 PH3 RETAINING WALL SECTIONS

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REV	DATE	BY	DESCRIPTION	CHK	APP
P05	05/01/23	MW	SIGNAGE UPDATED AND SECTION C-C ADDED	NS	DB
P04	05/12/22	MW	MINOR AMENDMENT TO PROW	NS	DB
P03	02/12/22	MW	PROW WIDTH ADJACENT TO PRIVATE DRIVE IN NORTH INCREASED FROM 2m TO 3m. ROUTE OF PROW THROUGH PUMPING STATION TURNING HEAD REVISED. SIGNAGE ADDED. SECTIONS A-A AND B-B ADDED.	NS	DB
P02	14/11/22	MW	UPDATED IN RESPONSE TO BOWH COMMENTS	NS	DB
P01	11/11/22	MW	FIRST ISSUE	NS	DB

DRAWING STATUS: S2 - FOR INFORMATION

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SITE/PROJECT: WHITECHAPEL ROAD, CLECKHEATON

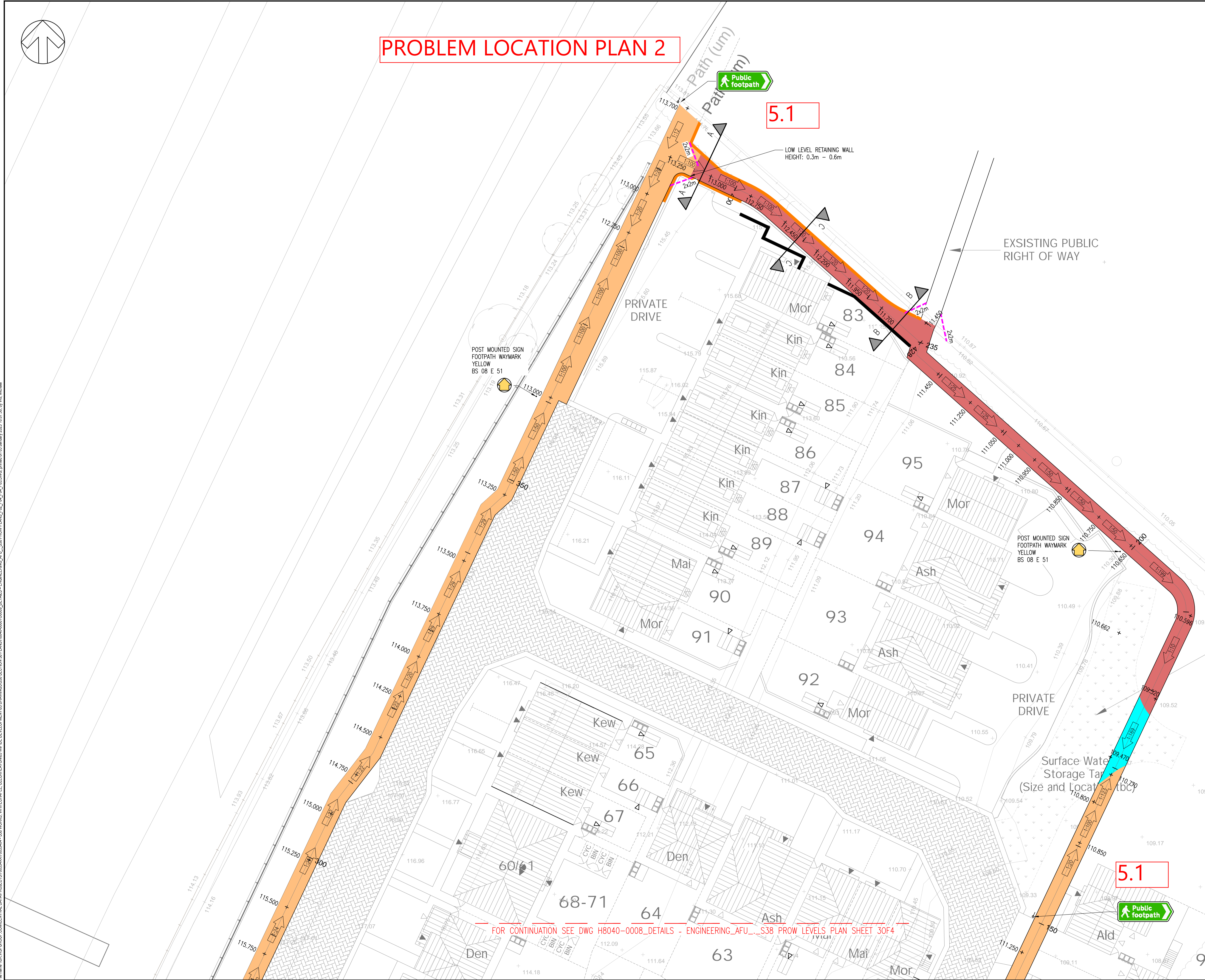
TITLE: PROW LEVELS PLAN SHEET 4 OF 4

SCALE @ A1: 1:200	CHECKED: NS	APPROVED: DB
PROJECT NO: 70055404	DESIGNED: MW	DATE: January 23

DRAWING: H8040-0009_DETAILS-ENGINEERING_AFU...S38 PROW LEVELS PLAN SHEET 40F4

REV: P05

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FOR CONTINUATION SEE DWG H8040-0008_DETAILS - ENGINEERING_AFU...S38 PROW LEVELS PLAN SHEET 30F4

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